

REMARKS

Claims 8, 10, 12-16, and 18-25 are pending in the present application. Claims 11 and 17 have been cancelled herein, and claims 1-7 and 9 were previously cancelled. Claims 8, 10, 12, 14, and 16 have been amended herein. Claims 18-25 have been added. No new matter has been added.

Claim 8 has been rejected under 35 U.S.C. § 112, first paragraph, as assertedly being based on a disclosure which is not enabling. Claims 10-17 have been rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for specific gas mixtures does not reasonably provide enablement for any non-specified gas mixtures. Claims 8 and 10-17 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claims 8, 10, 11, 13, and 15-16 have been rejected under 35 U.S.C. § 102(b) as assertedly being anticipated by U.S. Patent No. 5,935,340 to Xia et al. (hereinafter “Xia”). Applicants respectfully traverse these rejections.

Rejection of Claim 8 Under 35 U.S.C. § 112, ¶ 1

Claim 8 has been amended to require a two-step process as suggested by the Office Action. Therefore, Applicants respectfully request that the rejection of claim 8 under 35 U.S.C. § 112, first paragraph be withdrawn.

Rejections of Claims 10-17 Under 35 U.S.C. § 112, ¶ 1

Regarding the rejection of claims 10-17 as not enabling any non-specified gas mixtures, Applicants respectfully disagree. The Office Action appears to be taking the position that the claims are only enabled for the specific embodiments disclosed in the specification. However, one of ordinary skill in the art would realize that other gases may be substituted for those gases disclosed in the specification to achieve similar results. In this situation, the disclosure of a single species is sufficient. *See* MPEP 2163. To support these conclusions, Applicants have

provided a Declaration under 37 C.F.R. § 1.132 from Mr. Bradley Smith. Mr. Smith is one of at least ordinary skill in the art and has stated that one of ordinary skill in the art would realize that other inert gases may be substituted for those explicitly listed in Applicants specification to achieve similar results. In view of this evidence, Applicants respectfully request that the rejections of claims 10-16 under 35 U.S.C. § 112, first paragraph be withdrawn.

If the Examiner decides to maintain this rejection, Applicants respectfully request that the Examiner provide Applicants support for his/her position that only those specific gas mixtures disclosed in the specification are enabled and that the claims must be limited to only those gas mixtures disclosed in the specification.

Rejection of Claim 8 Under 35 U.S.C. § 112, ¶ 2

Regarding the Office Action’s assertion that claim 8 is indefinite because it is not clear what is referenced as “process conditions,” claim 8 has been amended to recite that the cleaning process conditions include one or more of flow rate, pressure, and RF power.

Regarding the Office Action’s assertion that claim 8 is indefinite because the claim merely recites the use of spectroscopy without reciting any positive manipulative step, Applicants respectfully disagree. The claim (as amended) explicitly recites “using optical emission spectroscopy or actinometry to identify the H atom concentration in the plasma.” An explicit positive manipulative step is recited in that the optical emission spectroscopy or actinometry is used *to identify the H atom concentration*. Actinometry and optical emission spectroscopy are two well-known methods and one of ordinary skill in the art understands how to use these methods to identify the H atom concentration. “The specification need not disclose what is well-known to those skilled in the art and preferably omits that which is well-known to those skilled and already available to the public.” MPEP § 2164.05(a) (citations omitted).

Thus, Applicants respectfully request that the rejection of claim 8 under 35 U.S.C. § 112, second paragraph be withdrawn.

Rejection of Claims 10-13 and 15-17 Under 35 U.S.C. § 112, ¶ 2

Regarding the Office Action's assertion that claims 10-13 and 15-17 are indefinite because it is not clear what is referenced as "process conditions," claim 10 has been amended to recite that the cleaning process conditions include one or more of flow rate, pressure, and RF power.

Regarding the rejection of claims 10-13 and 15-17 as assertedly being indefinite because it is not clear how the process conditions are determined, Applicants respectfully submit that these claims are not indefinite. Claim 10 explicitly recites that process conditions that are determined maximize the hydrogen atom concentration. The specification identifies two well-known methods of determining these process conditions, namely optical emission spectroscopy or actinometry. Other methods, however, may be used.

The Office Action again appears to be requiring that the claims be limited to only those embodiments disclosed in the specification. That is simply not the law. The Applicants need not disclose each and every possible method of performing each step, and Applicants are not required to restrict the claims to only those embodiments disclosed in the specification.

If the Examiner maintains the rejections of claims 10-13 and 15-17 on this basis, Applicants respectfully request that the Examiner provide Applicants support for this position.

Regarding the rejection of claims 10-13 and 15-17 as assertedly being indefinite because it is not clear what is referenced as "striking the first gas mixture," Applicants have amended the claim to more clearly recite this limitation.

Regarding the rejection of claim 15 as merely reciting the use of spectroscopy without reciting any positive manipulative steps, Applicants respectfully disagree. Claim 15 explicitly recites a specific method of performing the determining step of claim 10. That is, claim 15 recites that the determining step of claim 10 is performed using a specific method (optical emission spectroscopy) with a specific type of tracer (Argon) to determine the hydrogen atom concentration, wherein the hydrogen atom concentration is determined using a specific equation. Hence, claim 15 recites more than the use of spectroscopy, but rather recites the use of a specific

method using a specific type of tracer to determine the hydrogen atom concentration using a specific equation.

If Examiner maintains this rejection of claim 15, Applicants respectfully request that the Examiner provide Applicants support that states a claim that merely states that a particular step is performed with a specific piece of equipment is invalid under 35 U.S.C. § 112, second paragraph.

Rejection of Claim 14 Under 35 U.S.C. § 112, ¶ 2

Applicants have amended claim 14 to overcome the rejections cited in the Office Action.

Rejection of Claims 8, 10, 11, 13, and 15-17 Under 35 U.S.C. § 102(b)

Claim 8 recites at least one distinguishing feature that is not disclosed in Xia, namely the step of “identifying cleaning process conditions of plasma containing H₂-gases that maximize H-atom concentration.” The Office Action does not identify, and Applicants cannot find, where in Xia this limitation is found. Rather, Xia does not disclose this feature and is completely silent in this regard. Xia is also silent with regard to the use of “optical emission spectroscopy or actinometry to identify the H atom concentration” as recited in Applicants claim 8.

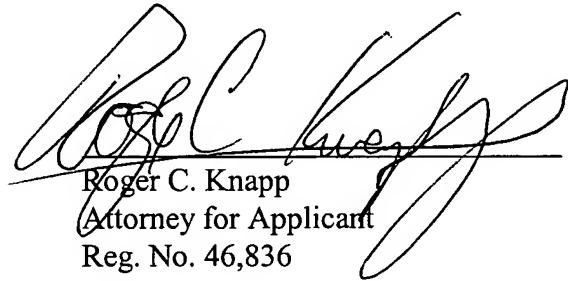
“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP § 2131.01 (citations omitted). Because Xia does not disclose all of the limitations recited in claim 8, Xia cannot be used to reject claim 8 under 35 U.S.C. § 102(b). Accordingly, Applicants respectfully request that the rejection of claim 8 under 35 U.S.C. § 102(b) be withdrawn.

Claim 10 recites a similar limitation as claim 8, and therefore, is distinguishable over Xia for at least some of the same reasons. Claims 12-13 and 15-16 depend from claim 10. Accordingly, Applicants respectfully request that the rejections of claim 10, 12, 13 and 15-16 under 35 U.S.C. § 102(b) be withdrawn.

In view of the above, Applicants respectfully submit that the application is in condition for allowance and request that the Examiner pass the case to issuance. If the Examiner should have any questions, Applicants request that the Examiner contact Applicants' attorney at the address below. No fee is believed due in connection with this filing. However, in the event that there are any fees due, please charge the same, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

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Date



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